



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,869	10/30/2003	Venkat K. Raghavendran	3813	9106
22474	7590	05/03/2007		
CLEMENTS WALKER 1901 ROXBOROUGH ROAD SUITE 300 CHARLOTTE, NC 28211			EXAMINER GRAY, JILL M	
			ART UNIT 1774	PAPER NUMBER
			MAIL DATE 05/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/696,869	RAGHAVENDRAN, VENKAT K.	
	Examiner	Art Unit	
	Jill M. Gray	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The indicated allowability of claims 1-3, 5, 9-11, 26-27, 29-32, 34-38, 40-47, and 49-54 is withdrawn in view of the newly discovered reference(s) to Winckler et al, in particular, 6,369,157 B1. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14, 26-27, 29-32, 34-36, and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim 4,983,247 in view of Winckler et al. US 6,369,157 B1 (Winckler).

Kim discloses in Figure 1, a composition of a fiber reinforced laminate material comprising a fiber reinforced composite having a resin rich surface layer, as required by claims 1 and 27, wherein said composite can be used in the formation of molded articles such as car hoods, doors and panels. See column 2, lines 40-50, column 3, lines 11-18, and Figure 1. In addition, Kim discloses that the reinforced fiber layer is a glass mat and that a variety of polymer matrices may be used such as polycarbonate or polyester, further disclosing that the resin forming layer (resin rich layer) is the same resin as used in the fiber reinforced body or a resin that is compatible with said body. This disclosure would render obvious the limitations as set forth in present claims 7-11, 26 and 29. See column 3, lines 28-40. Furthermore, Kim discloses that fillers of the

Art Unit: 1774

type contemplated by applicants, such as pigments can be included in the surface layer, per claim 12, and that the glass fibers can be present in an amount within applicants' range as set forth in claim 42. See column 5, lines 7-10 and column 7, line 68.

Kim does not specifically teach that the polymeric matrix is a polymerizable component comprised of a macrocyclic oligoester.

Winckler teaches a blend of a macrocyclic polyester oligomer and a polymerization catalyst (per claims 4-6) that is used in the formation of prepegs, which are used to form plastic composite articles such as automotive body panels. See abstract, and column 19, lines 9-11. In addition, Winckler teaches that his macrocyclic polyester oligomer is of the type set forth by applicants in claims 34-35 and 39, such as 1,4-butylene terephthalate. See column 5, lines 1-10. Also, Winckler teaches that a filler can be added as required by claims 13 and 14. See column 10, lines 15-19. Winckler further teaches that his prepegs are formed by infusing or impregnating the macrocyclic polyester oligomer blend into a dry fibrous substrate layer. See columns 13-17.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a fiber reinforced laminate whereby the resin rich layer and glass mat polymer matrix are formed from the same material and that material being a polyester, as disclosed by Kim. Though Kim is silent as to the specific polyester material, it would have been obvious to modify the teachings of Kim by using a polyester such as a macrocyclic polyester oligomer blended with a polymerization catalyst as taught by Winckler, motivated by the ability to reduce processing time and

Art Unit: 1774

energy consumption during the molding process because said macrocyclic polyester oligomers have favorable crystallization rates. Accordingly, claims 2-3, 30-31, and 40, would have been obviated by the aforementioned teachings.

As to claim 32, Winckler teaches that various titanates can be used as the catalyst in his polymerization process, though not specifically teaching the instant claimed titanate ester. It is the position of the examiner that the selection of a specific titanate polymerization catalyst from among many, being selected for its art recognized purpose is no more than a preferential selection of a known catalyst to be used in its known function. Therefore, in the absence of factual evidence on this record of unexpected or superior properties of the resultant fiber reinforced laminate, said properties being directly related to the instant claimed catalyst, this limitation is not construed to be a matter of invention.

Regarding claim 36, Kim discloses that polycarbonate cyclic polymers are sprinkled on the mold resulting in a composite sheet layer covered with said melted powders. Clearly this teaching provides a suggestion for the inclusion of polycarbonate. Note column 8, lines 29-43.

Regarding claim 38, it would have been an obvious expedient to the skilled artisan at the time the invention was made to select and determine a polycarbonate of optimal MFI during routine experimentation. It has long been held that discovery of an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F2d 272, 205, USPQ 215 (CCPA 1980).

Regarding claim 41, Winckler does not specifically teach that the amount of his catalyst is present in the instant claimed range. Nonetheless, it is the position of the examiner that since the result sought and the ingredients used were known, it was within the expected skills of one having ordinary skill in this art to arrive at the optimum proportion of those ingredients. *In re Reese*, 129, USPQ 402 (CCPA 1961).

As to claims 43-54, Winckler teaches the formation of multi-layered laminates as required by claims 43 and 47. This teaching would have provided a suggestion to the skilled artisan for the formation of a fiber reinforced laminate material of the type contemplated by applicants. Claims 44-46 and 48-54 would have been obvious over the combined teachings of Kim and Winckler for reasons mentioned above in the preceding paragraphs.

Therefore, the combined teachings of Kim and Winckler would have rendered obvious the invention as claimed in present claims 1-14, 26-27, 29-32, 34-36, and 38-54.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 1774

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-9, 13, 30-31, 34-37, 43 and 47 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 9-16, and 19-23 of copending Application No. 11/141,238. Although the conflicting claims are not identical, they are not patentably distinct from each other because the language of "comprising" in the copending claims does not exclude the layer of thermoplastic resin of the present invention.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 7, 8, 10, 12-14, 43, and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, in claims 1, 43 and 47, the language of "impregnation/saturation" is vague and indefinite because it is not clear what "/" implies. Accordingly, the metes and bounds for which patent protection is being sought are not clear.

In claim 7, the language of “fibers selected from the group consisting of...synthetic polymers made from polymers including....” is indefinite because the fiber per se cannot be selected from synthetic polymers per se. A fiber is a structurally defined article whereas polymers are not. The suggested language is “synthetic fiber” or “polymeric fiber”. Also, the language “synthetic polymers made from polymers including...” implies that each of the listed polymers is included in the synthetic polymer.

In claim 8, the language of “processed fibers” is indefinite and redundant. In particular, fibers that are chopped, matted, picked, bonded and woven are all processed fibers. Accordingly, it is not clear how this language distinguishes from the other fiber types. Hence, the metes and bounds for which patent protection is being sought are not clear.

In claim 10, the language of “terpolymers ionomers of copolymers” is indefinite because it is not clear what type of copolymer this is.

Claim 12 is indefinite because the language “comprises other additives” implies that claim 1 initially set forth the presence of additives and that the additives of claim 12 are added in addition to those of claim 1. Also, the language of “fillers which are reinforcing” (line 4) includes the “reinforcing fibers” of line 3 and is redundant. The usage of “i.e.” in the claims is indefinite and renders it difficult to determine the scope of the claim for which patent protection is being sought. Furthermore, this claim contains alternative limitations for the processing aides, density modifiers, and IR absorbents, but does not provide these alternative limitations in an acceptable form of alternative expression, such as “selected from the group consisting of”. See MPEP 2173.05(h).

Art Unit: 1774

Therefore, the metes and bounds for which patent protection is being sought are not clear.

Claim 13 is indefinite for reasons stated above in claim 12.

Claim 14 is indefinite for reasons stated above in claim 12.

No claims are allowed.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

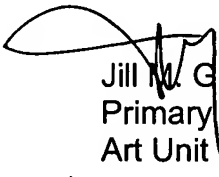
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M. Gray whose telephone number is 571-272-1524.

The examiner can normally be reached on M-Th and alternate Fridays 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1774

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jill M. Gray
Primary Examiner
Art Unit 1774

jmg